Paper No. 34

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LOUIS DISCHLER

Appeal No. 1997-0529
Application No. 08/573,884

ON BRIEF

Before STONER, Chief Administrative Patent Judge, WILLIAM F. SMITH and NASE, Administrative Patent Judges.

NASE, Administrative Patent Judge.

## DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 18 to 21. Claim 17 has been allowed. Claims 1 to 16 have been canceled.

We REVERSE.

## BACKGROUND

The appellant's invention relates to combinations of polymeric fibers having low coefficients of friction with polymeric coatings having high coefficients of friction to provide a fabric which is more resistant to penetration by metallic or other objects such as bullets, flechettes, shrapnel, etc. (specification, p. 1). A correct copy of the claims under appeal is set forth in the appendix to this decision.

Claims 18 to 21 stand rejected under 35 U.S.C. § 112, first paragraph, as the disclosure is enabling only for claims limited to fabrics comprising high tenacity filaments coated with polypyrrole or polyaniline coatings.

Claims 18 to 21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellant regards as the invention.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 31, mailed August 16, 1996) and the supplemental answer (Paper No. 33, mailed November 20, 1996) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 30, filed July 2, 1996) and amendment after new ground of rejection (Paper No. 32, filed October 1, 1996) for the appellant's arguments thereagainst.

## OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

**The indefiniteness rejection**

In the answer (pp. 3-4), the examiner set forth a new ground of rejection of claims 18 to 21 under 35 U.S.C. § 112,

second paragraph. Specifically, the examiner found the term

"very

little" in claim 18 to be a relative term which renders claim 18 and its dependent claims (i.e., claims 19 to 21) indefinite.[1]

We will not sustain the examiner's rejection of claims 18 to 21 under 35 U.S.C. § 112, second paragraph, since the term "very little" is not present in claim 18 on appeal. In that regard, claim 18 was amended by the preliminary amendment (Paper No. 27, filed December 18, 1995) by deleting "very little" and substituting - substantially no -. The correct copy of claim 18 appears in the appendix to this decision.[2]

**The enablement rejection**

We will not sustain the rejection of claims 18 to 21 under 35 U.S.C. § 112, first paragraph.

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[1] The examiner also found the trademark "KEVLAR®" in claim 19 to be indefinite. However, this basis for the rejection was withdrawn in the supplemental answer due to the appellant's amendment to claim 19 (Paper No. 32).

[2] The copy of claim 18 attached in the appendix to the brief is not correct.

An analysis of whether the claims under appeal are supported by an enabling disclosure requires a determination of whether that disclosure contained sufficient information regarding the subject matter of the appealed claims as to enable one skilled in the pertinent art to make and use the claimed invention. The test for enablement is whether one skilled in the art could make and use the claimed invention from the disclosure coupled with information known in the art without undue experimentation. See United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988), cert. denied, 109 S.Ct. 1954 (1989); In re Stephens, 529 F.2d 1343, 1345, 188 USPQ 659, 661 (CCPA 1976).

In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. See In re Wright, 999 F.2d 1557, 1561-62, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A disclosure which contains a teaching of the manner and process of making and

using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of
35 U.S.C. § 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. Assuming that sufficient reason for such doubt exists, a rejection for failure to teach how to make and/or use will be proper on that basis. See In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971). As stated by the court,

> it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure.

In re Marzocchi, 439 F.2d at 224, 169 USPQ at 370.

Once the examiner has established a reasonable basis to question the enablement provided for the claimed invention, the burden falls on the appellant to present persuasive

arguments, supported by suitable proofs where necessary, that one skilled in the art would be able to make and use the claimed invention using the disclosure as a guide. See In re Brandstadter, 484 F.2d 1395, 1406, 179 USPQ 286, 294 (CCPA 1973). In making the determination of enablement, the examiner shall consider the original disclosure and all evidence in the record, weighing evidence that supports enablement[3] against evidence that the specification is not enabling.

Thus, the dispositive issue is whether the appellant's disclosure, considering the level of ordinary skill in the art as of the date of the appellant's application, would have enabled a person of such skill to make and use the appellant's invention without undue experimentation. The threshold step in resolving this issue as set forth supra is to determine

[3] The appellant may attempt to overcome the examiner's doubt about enablement by pointing to details in the disclosure but may not add new matter. The appellant may also submit factual affidavits under 37 CFR § 1.132 or cite references to show what one skilled in the art knew at the time of filing the application.

whether the examiner has met his burden of proof by advancing acceptable reasoning inconsistent with enablement.

The examiner states in both the final rejection and the answer (p. 3) that

> [t]he broadest claims are directed to a fabric comprising a plurality of woven fabric layers wherein each fabric layer comprises high tenacity continuous filaments in the warp and weft coated with a material which increases the coefficient of friction of the continuous filaments. Only two specific coating materials, polypyrrole and polyaniline, are disclosed in the specification. The applicant has provided no guidance to one of ordinary skill in the art as to suitable coatings other than those specified above. Undue experimentation would be necessary if appellant's scope of invention were broadened beyond a fabric comprising high tenacity filaments coated with polypyrrole or polyaniline coatings.

The appellant argues (brief, pp. 2-3) that the rejection is clearly erroneous since

> the claims are restricted to a polymeric film coated on the warp and weft yarns to provide a coated filament having a coefficient of friction higher than that of the uncoated filaments. To support this applicant has cited the two examples of coating materials noted by the Examiner and certainly are entitled to the broader recitation of "polymeric materials" coated on the filaments to increase the coefficient of friction. No undue experimentation would be required to determine other coatings within the scope of the claims and

> applicant is under no burden to try every known polymeric coating to be entitled to a reasonable breadth of claim when clearly supported by the disclosure. Applicant is entitled to coverage for any polymeric coating on the warp and weft yarns of a fabric which increases the coefficient of friction of said yarns in a fabric for use to prevent penetration by bullets, flechettes, etc..

The examiner's response (answer, p. 5) to this argument of the appellant was as follows:

> The appellant contends that the recitation of two specific examples of polymeric coating materials entitles the applicant to any polymeric material which increases the coefficient of friction of the fiber to which it is applied. Interactions between coatings and substrates, however, are difficult to predict. Whereas the coefficient of friction of a bulk solid may be readily ascertained, the same cannot be said of a thin coating on a fiber surface. Chemical interactions between the coating and the fiber surface in the interfacial region are by nature unpredictable and may result in a material which, in the form of a thin coating, has markedly different physical properties than the corresponding bulk solid.

In our opinion the examiner has not met his burden of proof by advancing acceptable reasoning inconsistent with enablement for the following reasons.

Factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. See In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) citing Ex parte Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986).

In this case, the examiner has focused only on one of the above-noted eight factors (i.e., working examples) as the basis that led the examiner to conclude that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims. Since the examiner has not weighed all the factors, the examiner's conclusion of nonenablement cannot be sustained. As stated in the Manual of Patent Examining Procedure (MPEP) § 2164.02 (Seventh Edition, Rev. 1, Feb. 2000)

> When considering the factors relating to a determination of non-enablement, if all the other factors point toward enablement, then the absence of working examples will not by itself render the invention non-enabled. In other words, lack of working examples or lack of evidence that the claimed invention works as described should never be the sole reason for rejecting the claimed invention on the grounds of lack of enablement.
> . . .
>
> The presence of only one working example should never be the sole reason for rejecting claims as being broader than the enabling disclosure, even though it is a factor to be considered along with all the other factors. To make a valid rejection, one must evaluate all the facts and evidence and state why one would not expect to be able to extrapolate that one example across the entire scope of the claims.

Furthermore, when all the factors are considered, it is our view that it would not require undue experimentation to practice the invention as set forth in the claims under appeal. In that regard, we note that in addition to the two examples provided by the appellant, the appellant also provides guidance on page 1 of the specification by teaching that polymeric fibers having a low coefficient of friction are coated with a polymeric coating having a high coefficient of friction to provide a fabric which is more resistant to penetration. This teaching would direct an artisan practicing

the claimed invention to choose a polymeric coating having a coefficient of friction higher than the coefficient of friction of the filaments (i.e., fibers). Moreover, the quantity of experimentation necessary appears to be small since all that would be necessary is to coat the fabric with a polymeric coating and then compare the coefficient of friction of the uncoated fabric to the coefficient of friction of the coated fabric. Further, it is our opinion that the nature of the invention seems to be not complex and the art appears to be relatively predictable.

For the reasons set forth above, the decision of the examiner to reject claims 18 to 21 under 35 U.S.C. § 112, first paragraph, is reversed.

## CONCLUSION

To summarize, the decision of the examiner to reject claims 18 to 21 under 35 U.S.C. § 112, first and second paragraphs, is reversed.

REVERSED

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| BRUCE H. STONER, JR.<br>Chief Administrative Patent Judge | ) |
| WILLIAM F. SMITH<br>Administrative Patent Judge | ) BOARD OF PATENT APPEALS AND INTERFERENCES |
| JEFFREY V. NASE<br>Administrative Patent Judge | ) |

# APPENDIX

18. A fabric resistant to penetration by foreign objects such as bullets, flechettes, etc. comprising:

a plurality of layers of woven fabric adjacent and in contact with each other, said woven fabric having warp and weft yarns of high tenacity continuous filaments interwoven together and a polymeric film coated on the filaments of said warp and weft yarns, said coated filaments having a coefficient of friction higher than the coefficient of friction of the high tenacity filaments with substantially no filament-to-filament bonding of the coated filaments of the warp and weft yarns.

19. The fabric of Claim 18 wherein said high tenacity filaments are aramid.

20. A fabric according to Claim 18 wherein said high tenacity filament is poly(para-phenylene terephthalamide).

21. A fabric according to Claim 18 wherein said polymeric film coated on the filaments has a thickness less than about 2 microns.

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